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USING SCHOOLS TO MAP THE FRONTIER OF SETTLEMENT ON THE CANADIAN PRAIRIES

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ABSTRACT—Most attempts to map the frontier of agricultural settlement in western Canada have used land alienation data or population density calculated from census returns. Both methods are fraught with difficulties. Population density data are only available at five-year intervals at the 36-square-mile township level. Land alienation does not always reflect settlement. In Manitoba, entire townships were alienated years before they were occupied. The organization and building of schools is a better indicator of actual settlement and the emergence of community-based institutions. To test this hypothesis, school formation and land alienation in 35 townships in southeastern Manitoba were plotted. This showed a close correlation between school formation and land alienation. All rural schools in Manitoba were then plotted by year from 1871 to 1959 using GIS software. Interpretation of this mapped data supports the contention that the formation of rural school districts is an effective and easily employed indicator of the limits of frontier settlement. These mapped data suggest that the idea of a well-defined frontier line of settlement is not the best analogy to describe the progress of agricultural settlement in Manitoba.

Key Words: frontier, Manitoba, mapping, settlement, schools

INTRODUCTION

The frontier is a crucial element in the historiography of North America (Hine and Faragher 2007). Frederick Jackson Turner's frontier thesis shaped the interpretation of the American West for decades and it still echoes today in interpretations of the European settlement of the American Great Plains and the Canadian Prairies (Faragher 1994:1-9). The frontier of settlement is usually conceived as a wave of agricultural settlement that rolled from east to west across the plains and prairies.

In western Canada there were many frontiers: the fur trade frontier, the mining frontier, the ranching frontier, and the agricultural frontier (Mackintosh and Joerg 1934). Mapping each of these frontiers poses different challenges, but the most difficult frontier to depict cartographically is the frontier of agricultural settlement, largely because the settlement process involved homestead entry onto hundreds of thousands of quarter sections. Furthermore, less than half the territory that was settled was taken through the homestead system. Many settlers purchased lands from the railways, the Hudson's

Bay Company, and other colonization companies. Thus, mapping the progress of settlement by following the process of land alienation alone is a formidable task. The sheer scale of the undertaking has led geographers to map the settlement process at the township level, which gives only a very general indication of the extent of settlement. This involves making a number of assumptions about the relationship between population density and the passing of the frontier. William Carlyle, for example, mapped the settlement of the Canadian Prairies using a settlement density of 72 persons per 36-square-mile township as marking the point when the frontier had passed (Carlyle et al. 1990; Carlyle 1991:331). This gives an average density of two people per square mile, or 0.75 people per square kilometer. Data were obtained from the quinquennial censuses of Canada, which included rural population statistics by township from 1901 to 1971. The population was not broken down into farm or nonfarm categories, and the scale of reporting ruled out any possibility of conducting detailed studies of small areas.

Reliance on such census data raises some problems when attempting to document the settlement process. Firstly, data are not available from this source before

1901 although the crucial settlement period for western Canada began in 1872, following the passing of the Dominion Lands Act. While settlement was slow in the 1870s it accelerated rapidly during the 1890s so that by 1901 substantial parts of Manitoba were settled, as were significant areas of what are now the provinces of Saskatchewan and Alberta. Secondly, the selection of 72 people per township as the index of settlement is arbitrary. It means that in most townships, where less than half of all sections were open for settlement, the density was actually one person or more per quarter section. The apparent settlement density of townships with small, nucleated settlements within their bounds was skewed upward. Using population density as a measure of the passing of the frontier clearly has its limitations, as it reveals little about the level of social or economic development within an area.

In the 1970s John Alwin argued that the establishment of post offices constituted a good index of the presence of agricultural settlement, and certainly mapping post-office locations by their date of establishment would seem to offer a fairly accurate indication of the presence of a significant population (Alwin 1974:183-86). In Canada at least, post offices pose some problems when used as a surrogate for settlement. The process of granting a post office to a district was often highly political and reflected political clout as much as the presence of a population demanding postal services. The political background to the process of establishing post offices also meant that offices moved around, often shifting their locations every three or four years as the federal government changed and a new burst of patronage meant that the post-office operations in some areas were entrusted to a person whose political allegiance warranted reward. A further drawback is that post offices frequently served extensive areas. Some settlers had to travel 20 miles or more to retrieve their mail because one post office might serve multiple townships, potentially covering an area of up to 300 square miles or more.

Another approach uses land alienation, the passing of legal title of property from the federal government into private hands, as an index of the advance of settlement. Although the data are available for each quarter section, detailing the date of sale or the date of homestead entry and date of patent, examination of land alienation reveals little about the extent to which the land was actually occupied or whether the area concerned was in the process of being brought into agricultural production.

An examination of the process of settlement in south-eastern Manitoba, for example, demonstrates the inherent

difficulties encountered in using land alienation statistics to determine the location of the settlement frontier. As elsewhere across the Canadian prairies, large tracts of land were reserved from homestead settlement and devoted to the compensation of the Hudson's Bay Company for surrendering Rupertsland to the government of Canada in 1869 and the railway companies that laid track from Ontario to the Pacific coast. Land was also set aside to finance the maintenance of schools, and other areas were retained by the Crown as Indian reserves, as military reserves, and as federally administered forestlands. In Manitoba, the provincial government designated certain townships as so-called half-breed land grants. These were areas reserved for occupation by Métis who were entitled to redeem scrip issued to them under the terms of the Manitoba Act of 1870. This act promised to distribute 1.4 million acres of land in unspecified areas to the Métis as compensation for the loss of their hunting grounds across what is now Manitoba, Saskatchewan, and Alberta (Lambrech 1991:219-30). Thus, a good portion of land on the Canadian prairies was not available for homestead settlement. In a typical township, Section 8 and three quarters of Section 26 were Hudson's Bay Company lands, and Sections 11 and 29 were reserved as school lands (Fig. 1). In most townships all even-numbered sections were granted to the railway companies, and while they were open to settlement through sale, they were not open to homestead settlement (Martin 1973).

All of Townships 3 and 4 in Range 4 East, with the exception of those lands granted to the Hudson's Bay Company, were set aside for Métis settlement as half-breed land grants (Fig. 2). Any Métis residing in Manitoba could exchange the scrip that entitled them to land and receive full title to a quarter section in any area designated as half-breed grant lands. According to the records of land alienation, Métis from the parishes of Saint Boniface and Saint Vital had taken virtually all the lands in Township 3 Range 4 in 1879 and 1880. There is no guarantee, though, that any of the claimants ever set foot on their land, since they did not have to fulfill any homestead duties nor were they bound by any residence requirements. In fact, since many of the Métis had no intention of farming in districts away from their extended families, they sold their lands to speculators when they obtained full title to a homestead. Real occupancy may have never occurred, or if it did, it did so long after the land passed into private hands.

In other areas land alienation progressed in a more conventional way, but again there was not a strong correlation between alienation and settlement. As an example,

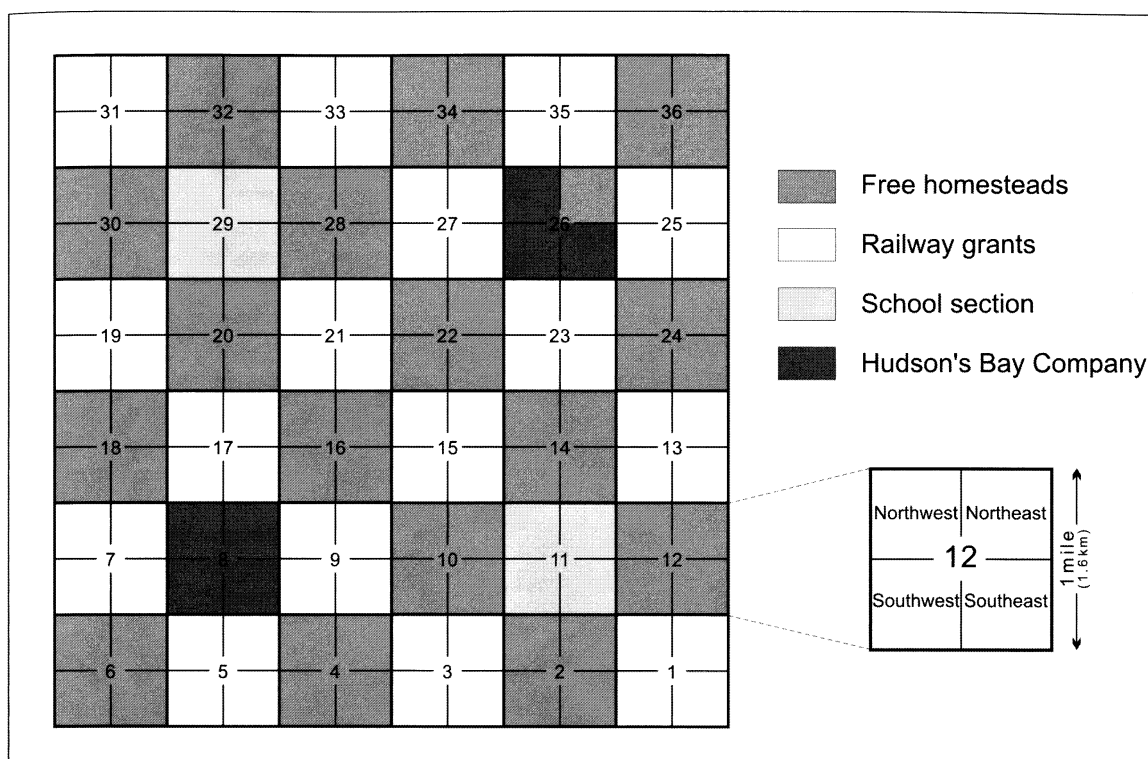


Figure 1. Disposition of land in a typical township in western Canada.

in Township 2 Range 4 East most of the land was granted to the Canadian Pacific Railway as a part of the land grant to which it was entitled. These lands, reserved from homesteading, were sold to incoming Anglo-Canadian settlers in the early 1890s (Fig. 3). Several of these settlers purchased a number of quarters. Peter Burnell, for example, purchased the south half of Section 1 in Township 2 Range 4 East. His brother, who also acquired the adjacent northwest quarter by purchase, claimed the northeast quarter of Section 1 as a homestead. Few of these English-speaking settlers had less than a half section, and some obtained entire sections or more, by homesteading, preemption, and purchase (Provincial Archives of Manitoba [PAM], Township General Registers).

It is evident that the frontier was above all a social phenomenon and that any consideration of what constitutes the frontier or its passing should take into account not only land alienation but the creation of social institutions. The legal framework of land alienation did not always reflect the actual state of affairs on the ground. The township devoted to redemption of Métis scrip had virtually every section claimed in the 1880s. In official documents the land was recorded as being in private hands, no longer open for settlement. Yet no school was established within

the township for almost another 20 years, suggesting that land alienation was quite different from land settlement.

Although squatting ahead of the survey was not common in Canada, it was not unknown. In such cases settlers gambled that the township they were entering would subsequently be open to legitimate homestead settlement and that they would be able to legalize their homestead claim at that time. When this occurred, as it did in the Arbakka district in southeastern Manitoba, the actual act of settlement was not recognized until the district was formally opened to homestead settlement some two or three years later (Figs. 4 and 5). By this time squatters had begun to make significant improvements to what they hoped would become their property. When the area was formally opened to settlement, squatters immediately acted to legalize their claims by registering them with the local Land Titles Office and paying the \$10 entry fee. The nascent community quickly gelled, community leaders emerged, and schools were developed even before the first settlers had obtained patent to their land some four years later (Lehr 1996:98-108).

Schools and churches were the first institutions to appear after settlement of any district. Schools more truly reflect the level of social organization and population

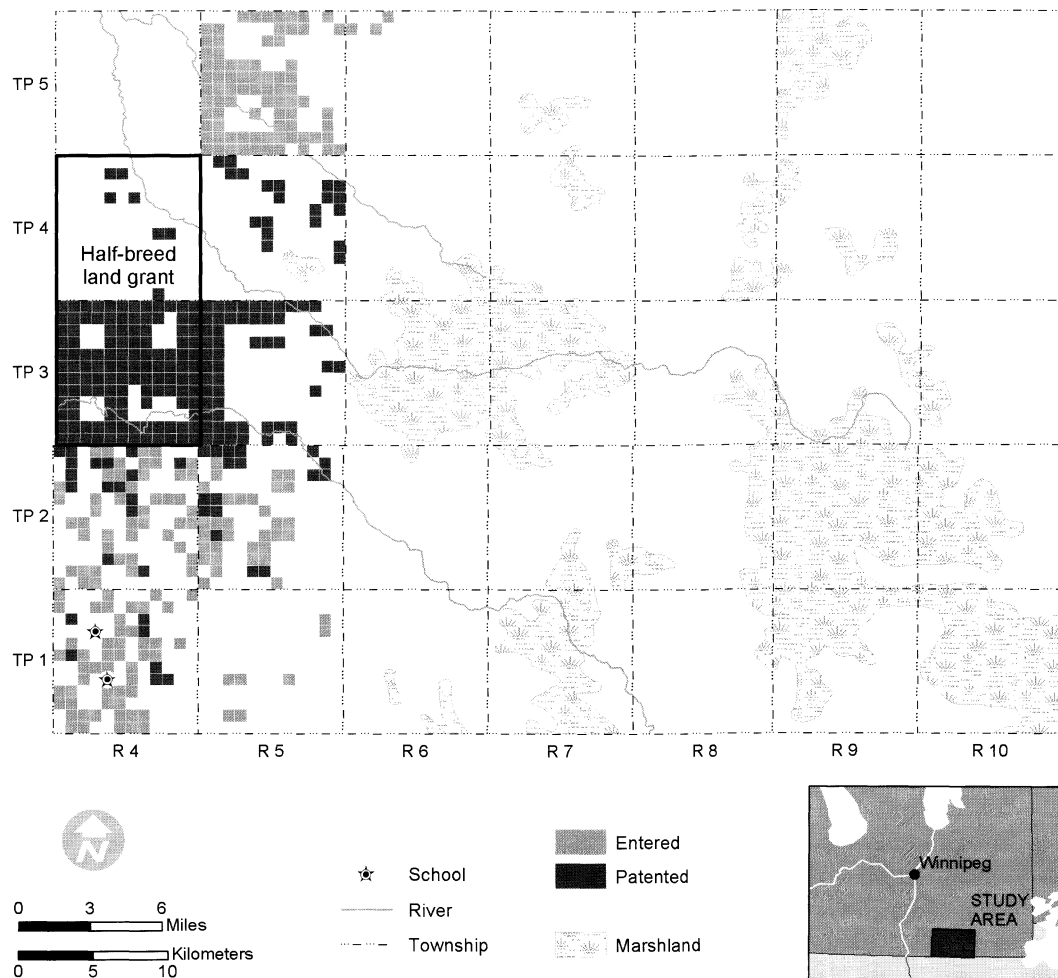


Figure 2. Land alienation in the Stuartburn district of southeastern Manitoba in 1880. Source of data: Provincial Archives of Manitoba (PAM), Records of Homestead Entry and Township General Registers.

density because provincial law mandated their creation. In Manitoba, the Manitoba Schools Act set fairly rigid provisions for the establishment of schools in frontier districts, specifying among other things the distances that pupils could be required to walk to school in winter and in summer. While Manitoba was being settled rapidly, school-district hinterlands were restricted to 20 square miles excluding lands devoted to roads, and had to include at least 10 children of school age. As settlement progressed, settlers from outside the district or those on the periphery whose children had to walk more than three miles to school could petition their municipality to either adjust the boundaries of the division so as to bring them within its bounds or to initiate the creation of a new division (PAM, School District Formation files). Division hinterlands and their official boundaries were

thus somewhat flexible and reflected changes in population distribution and density. When settlement became sufficiently dense new school districts were carved from preexisting divisions and lands were exchanged between divisions in order to ensure that students were within the catchment area of the closest school to their home (PAM, School District Formation files).

The establishment of churches was not controlled in this way and could be affected by a plethora of factors, including the religious diversity of the population, its adherence to a particular creed, and the financial status of the community. It was not unusual for settlers to travel long distances to attend the church of their choice. Unlike education, religion disregarded intervening opportunity. It is also reasoned that since schools were not established immediately after a district was occupied but only some

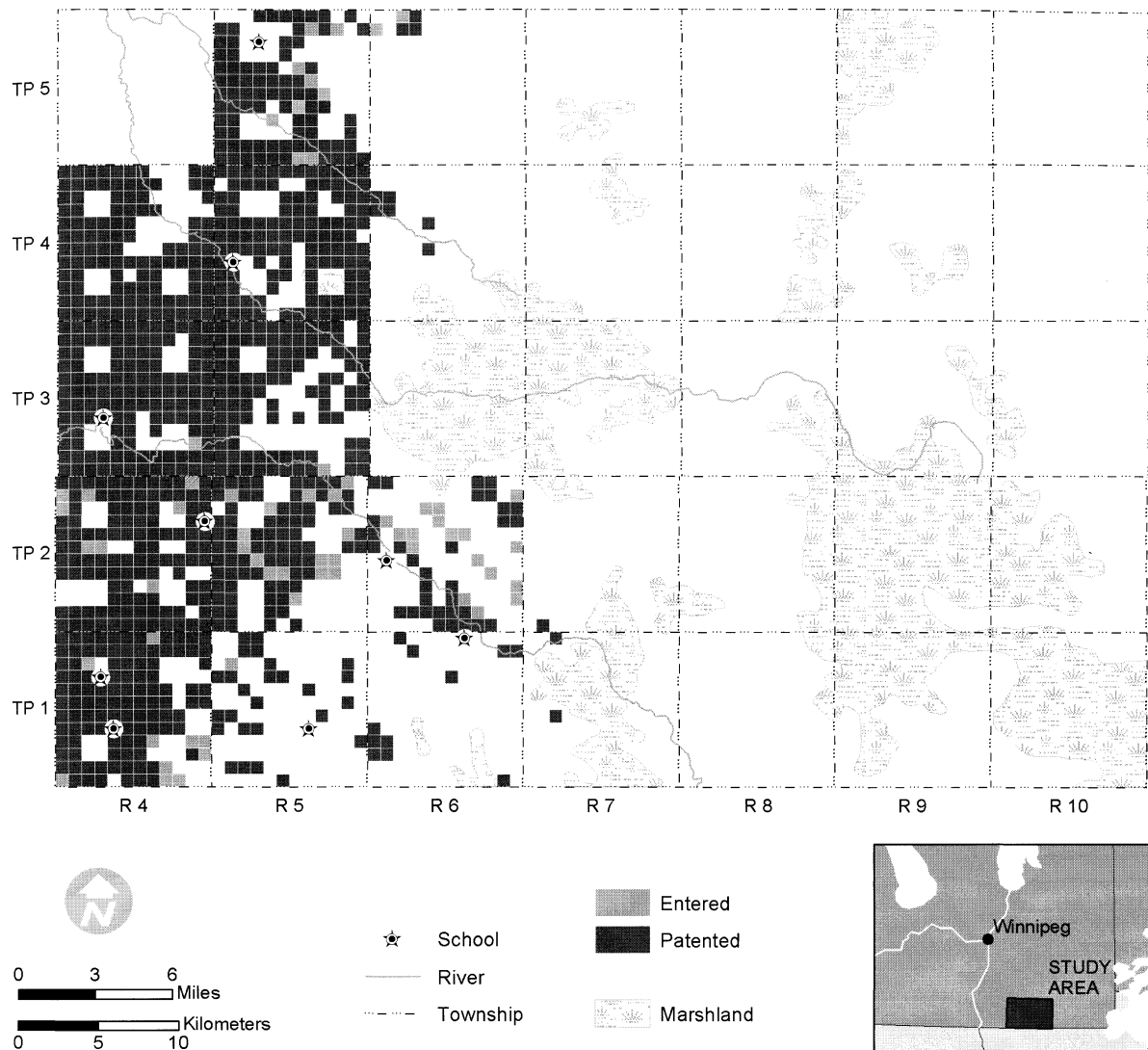


Figure 3. Land alienation in the Stuartburn district of southeastern Manitoba in 1896. Source of data: PAM, Records of Homestead Entry and Township General Registers.

years after settlement, the presence of a school marks the point where the population had become dense enough and consolidated enough to organize basic social institutions. At this time the settlement frontier had effectively passed, although frontier conditions may have endured for a decade or more afterward.

Schools were organized only when there were sufficient families with children present in an area to warrant their establishment. The community had to be mature enough to be able to bear the collection of taxes to support local governance initiatives and to be sufficiently developed for local leaders to emerge. For this reason schools cannot be used as a surrogate measure

for settlement on the forestry or mining frontiers, which were predominantly frontiers of single men who, if they had families, were far removed from them on a seasonal or semipermanent basis. Schools and other social institutions associated with family life were noticeably absent from these northern or mining frontiers, a marked difference from the agricultural frontier, which was essentially a family frontier.

METHODOLOGY

These assertions must be tested. To establish their veracity, a study area comprising 35 townships in

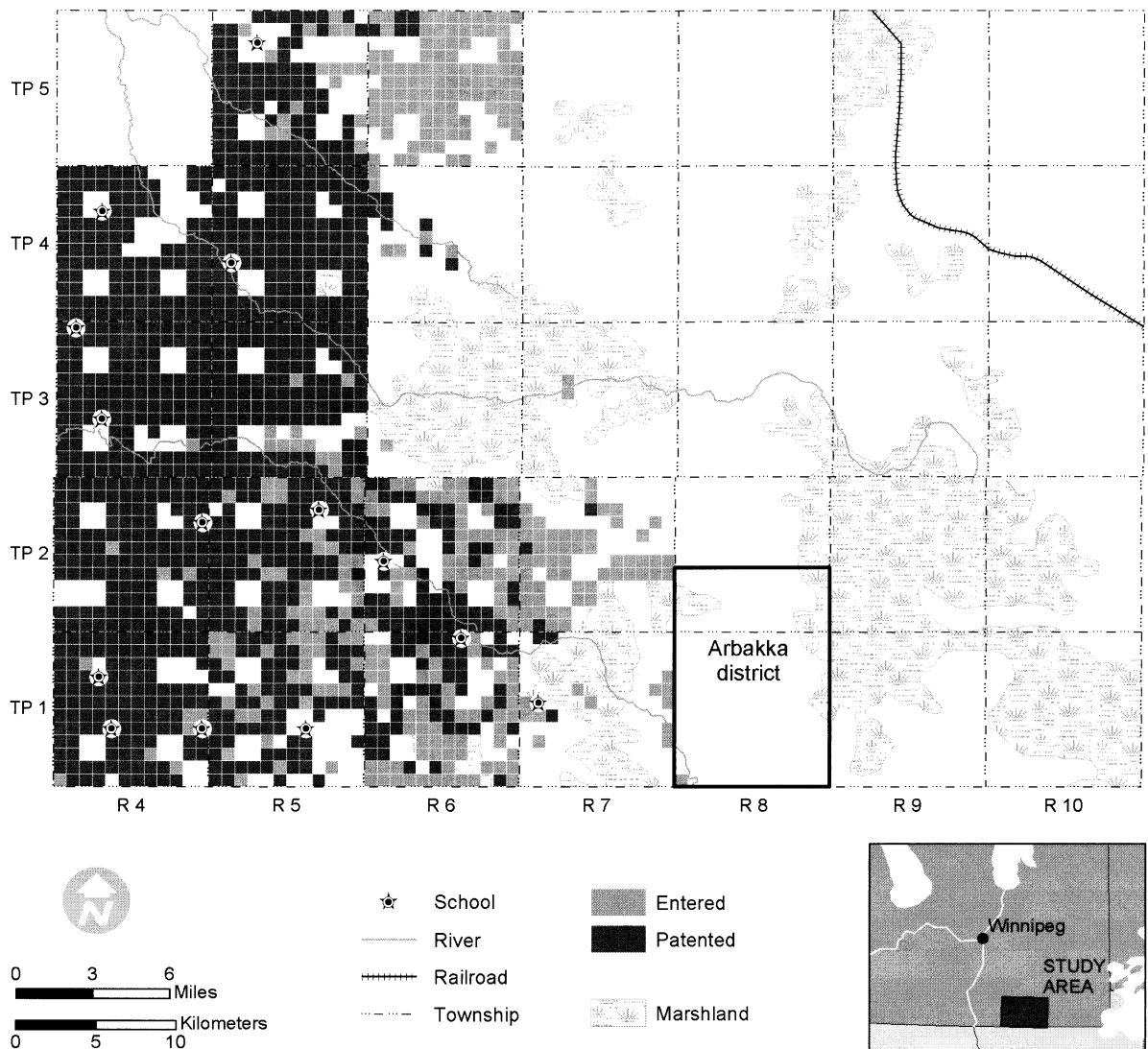


Figure 4. Land alienation in the Stuartburn district of southeastern Manitoba in 1902. Source of data: PAM, Records of Homestead Entry and Township General Registers.

southeastern Manitoba was selected for more intensive study, and the progress of frontier settlement was mapped using land alienation—the date of entry and the date of patent—as the indicator of the passage of the frontier (Smith et al. 1999). The selected block of townships, running eastward from Range 4 East to Range 10 East and north from Township 1 to Township 5 was settled by a variety of ethnic groups. It was chosen for a detailed examination of the relationship between school formation and land alienation because of the authors' intimate knowledge of the area's historical geography (Lehr 1985, 1996). Land alienation data for every quarter section open

to homesteading in these 35 townships were obtained from the Township General Registers and the records of homestead entry located in the Provincial Archives of Manitoba. The locations of all schools within this area and their dates of establishment and closure were determined from school formation records also located in the Provincial Archives. Geographic Information Systems software, ArcGIS (ESRI 2004), was used to plot the school and land alienation data by year.

The following step was to collect data for all the schools in Manitoba from the provincial government records. School formation files listed every rural school's

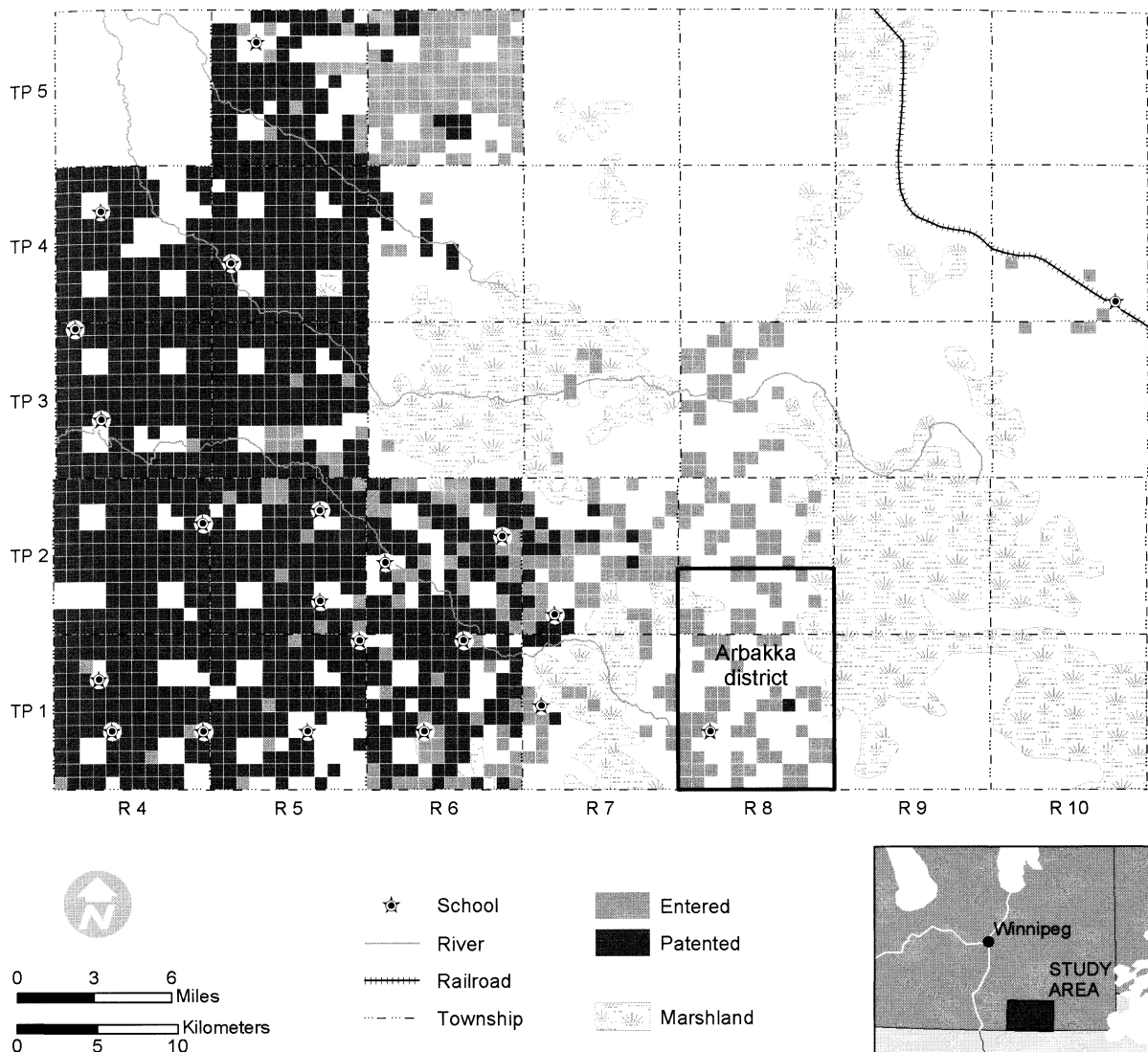


Figure 5. Land alienation in the Stuartburn district of southeastern Manitoba in 1904. Source of data: PAM, Records of Homestead Entry and Township General Registers.

date of establishment, area served, and its location by legal description. In the vast majority of cases the legal description was by quarter, section, township, and range. These schools were assumed to be located in the center of their quarter section and were geo-referenced accordingly. Before the sectional survey was imposed across western Canada in 1872 the early settlers used the river lot system. Much of the territory flanking the Red, Assiniboine, and Seine rivers was laid out in long lots running back two miles from the river frontage. When schools were located on a river lot their location was determined by consulting early parish maps and the *Cummin's Rural*

Directory of 1923, which often showed school locations. If a school's location within a river lot could not be precisely determined it was assumed to be adjacent to the river. Based on this information a series of maps showing the locations of schools in southern Manitoba by year from 1871 to 1959 was prepared and interpreted.

INTERPRETATION

An examination of the land alienation and school formation data for the Stuartburn area revealed a strong correlation between land alienation through homesteading

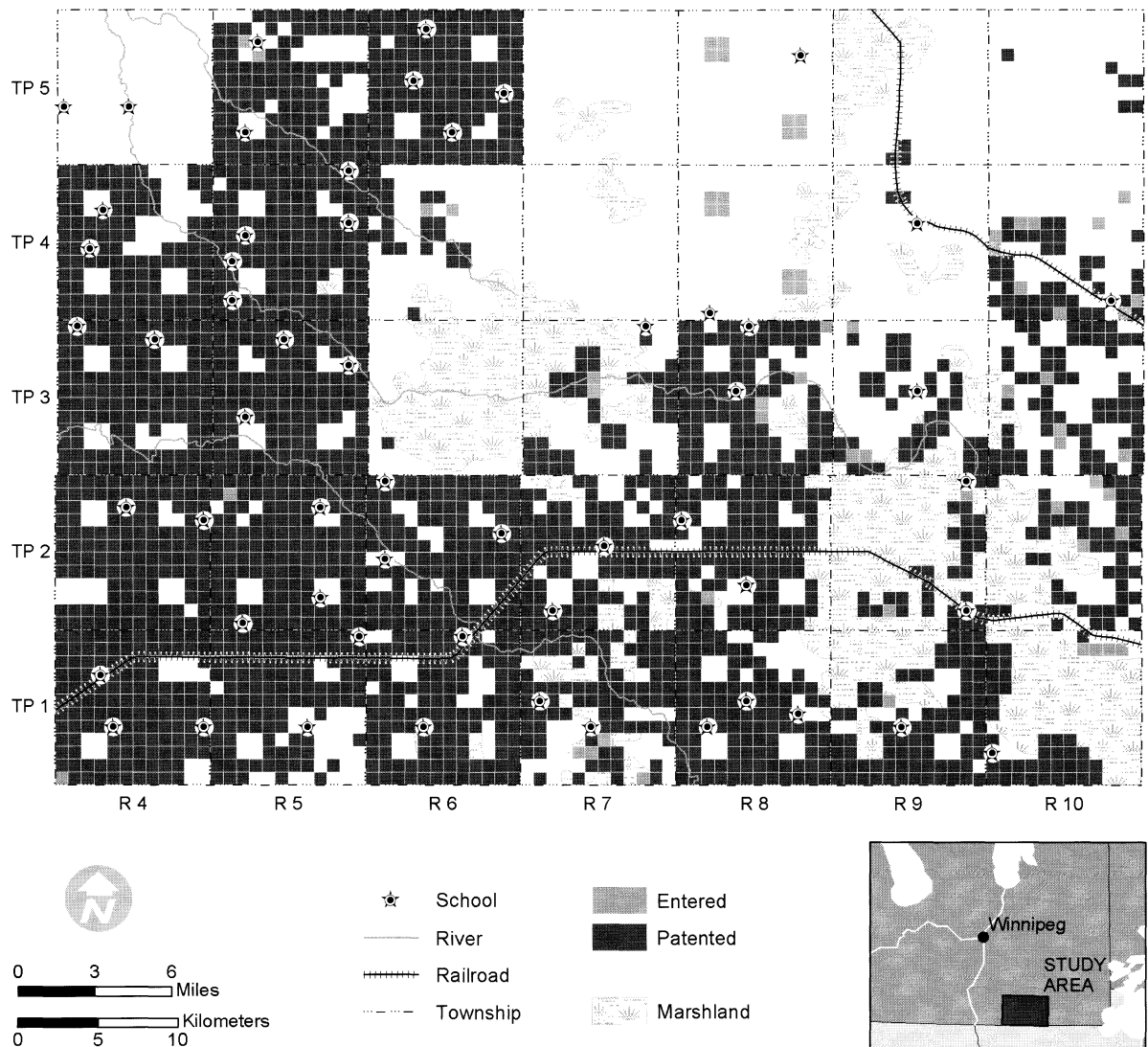


Figure 6. Land alienation in the Stuartburn district of southeastern Manitoba in 1938. Source of data: PAM, Records of Homestead Entry and Township General Registers.

and the formation of schools. As argued above, schools proved to be a better indication of the presence of settlers than land alienation alone. For example, in Township 5 Range 4 East two schools were established (in 1905 and 1909), yet according to the land alienation records the township was not then settled (Fig. 6). In another instance land in Townships 3 and 4 Range 4 East was alienated in the late 1870s, but no schools were established within the townships until 1896. It seems most improbable that this area was actually settled from this date and it is more likely that actual occupation of the land predated the formation of schools by only some six or seven years. This supposition is strengthened by the fact that the land in

question was devoted to half-breed land grants and was redeemed by scrip in 1879-82.

The maps of school establishment clearly indicate that early European settlement was clustered around the confluence of the Red and Assiniboine rivers. As settlement expanded from this initial core, new schools indicated the location of the frontier of settlement by showing areas that were newly occupied and where society was only recently sufficiently stable to permit the emergence of social institutions. An absence of schools indicated areas that were either not yet inhabited by Europeans or where society was not yet sufficiently organized to develop the most rudimentary of social institutions. Significantly,

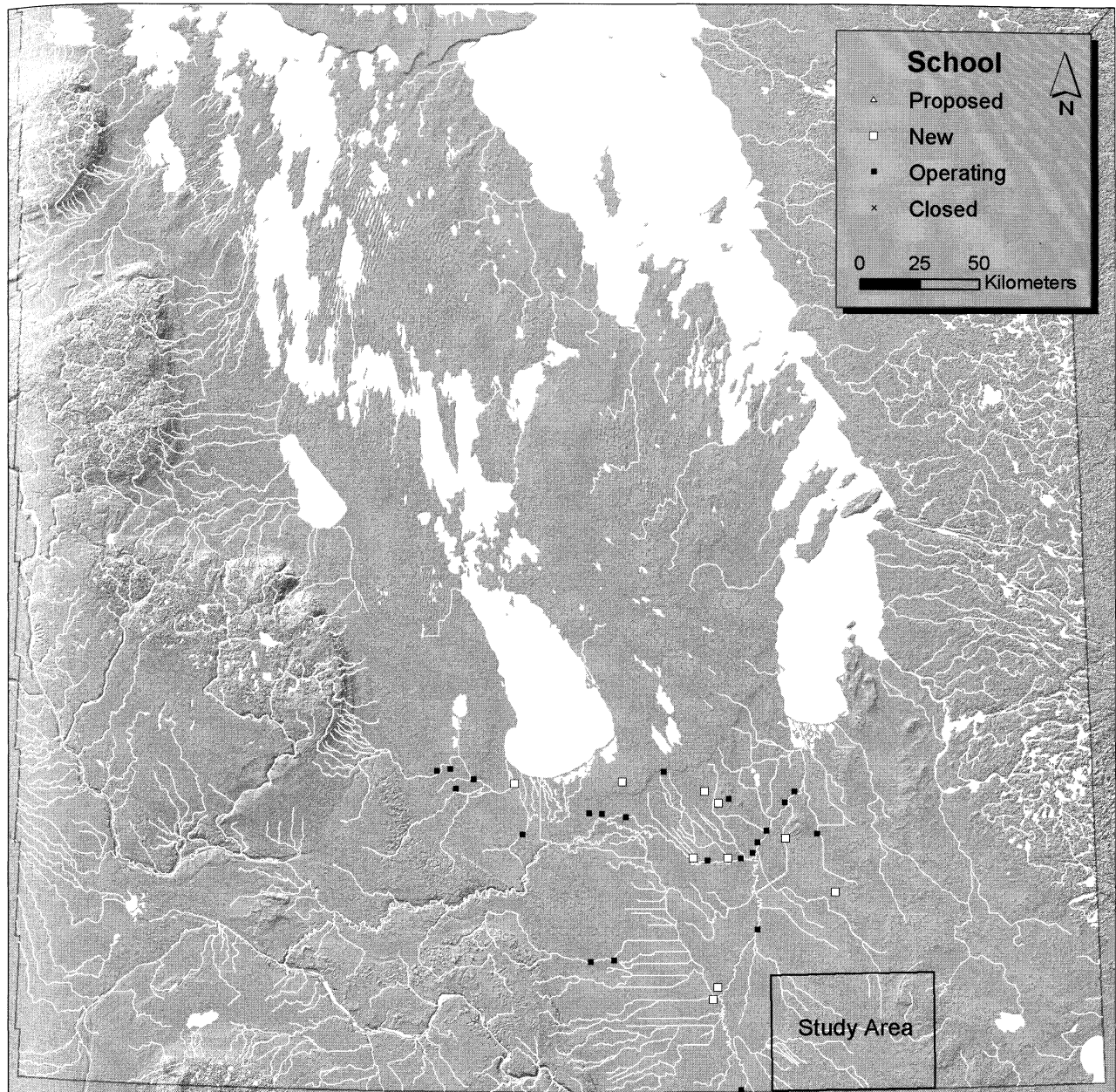


Figure 7. Schools in southern Manitoba in 1876. Sources of data: PAM, School Formation files, and Perfect (1978).

areas that were late to be settled were easily identified by the absence of any schools. Such areas included marginal agricultural areas that were later removed from settlement and set aside as federal or provincial forests, Indian reserves, and areas that today rank as the most productive agricultural lands in the province. The latter were settled late, as they were poorly drained prairie lands that awaited the initiation of drainage districts before effective agricultural exploitation was possible.

The frontier is commonly thought of as a wave that rolls westward rather like a diffusion wave that washes through an area. This is true to the extent that the first European settlement in Manitoba centered on the confluence of the Red and Assiniboine rivers and moved slowly south along the Red River and westward along the Assiniboine and its tributaries in the southern reaches of the aspen parkland belt (Fig. 7). School formation was mostly confined to the Red River Valley until 1879. In 1880 the

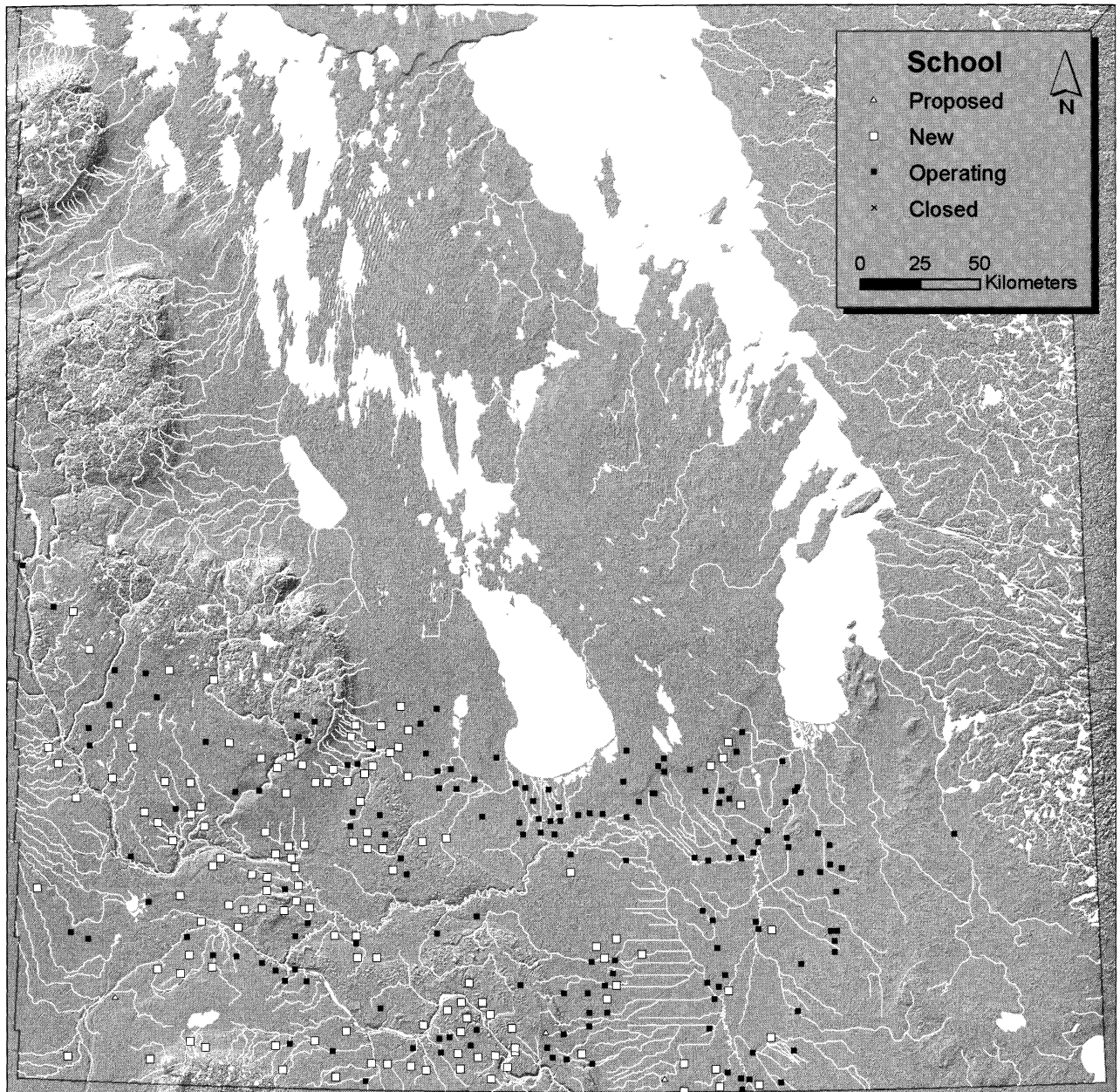


Figure 8. Schools in southern Manitoba in 1884. Sources of data: PAM, School Formation files, and Perfect (1978).

first schools were established beyond the first prairie level and within a year the first school districts were formed in the extreme west of the province (Fig. 8). The mid-1880s were a period of infilling before a new frontier opened in the Swan River Valley in the 1890s (Fig. 9). The pace of settlement there was indicated by the rate at which schools were formed: one school was present in 1893, eight by 1900, 18 by 1901, and 24 by 1902. As new

frontiers pushed northward in the interlake region and eastward in Stuartburn in the late 1890s schools followed in their train. Within the admittedly restricted scale of southern Manitoba it was difficult to see a well-defined wave of schools rolling westward, and it is suggested that a better analogy would be a rainstorm where the first few drops are widely scattered and the area becomes increasingly soaked as the rate of precipitation accelerates. Infilling

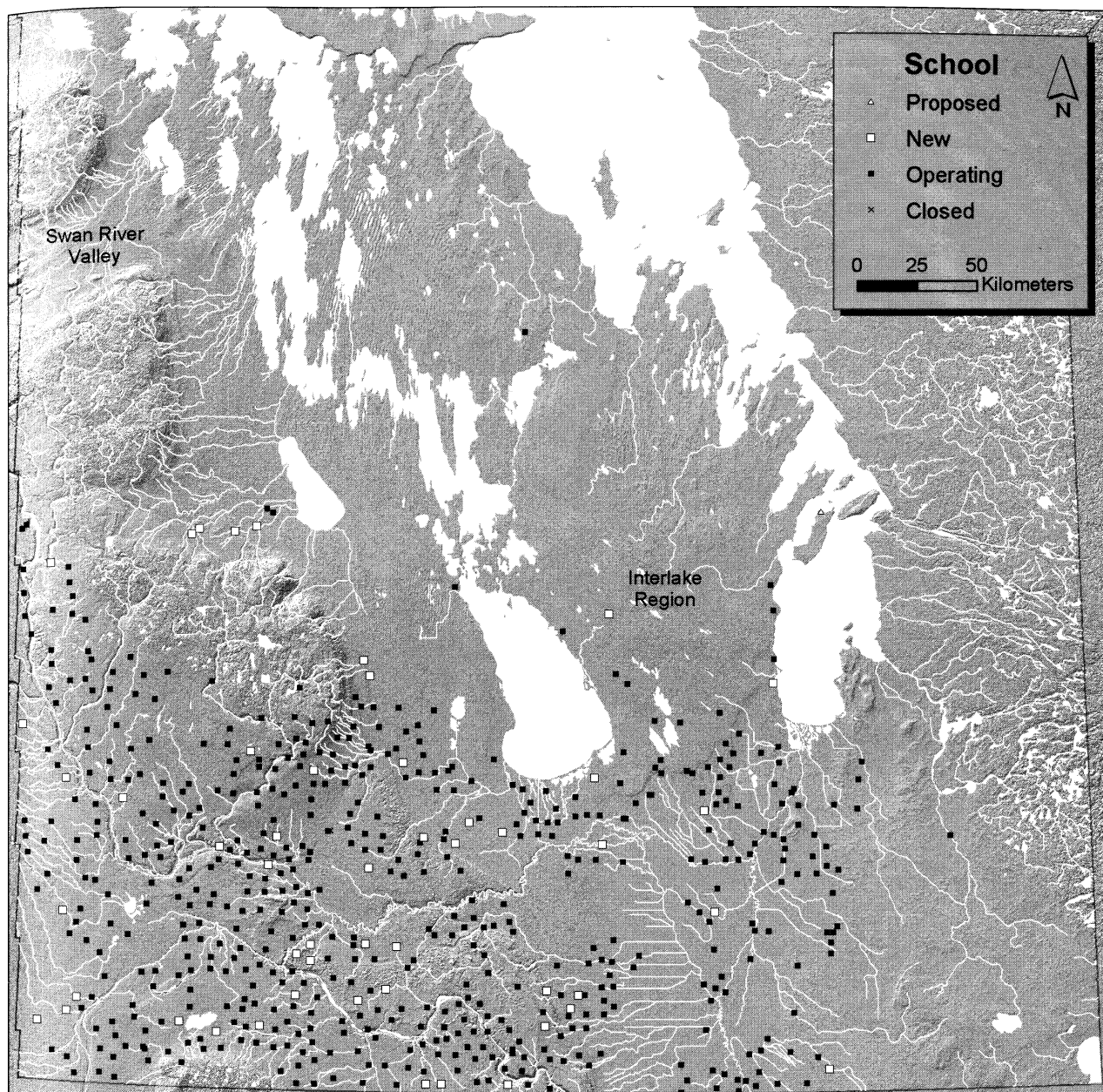


Figure 9. Schools in southern Manitoba in 1891. Sources of data: PAM, School Formation files, and Perfect (1978).

was an important component of the frontier experience, thus the frontier in Manitoba was a broad zone rather than a narrow line separating areas occupied by Europeans from land that was not occupied by them (Fig. 10).

The more limited case study of the Stuartburn district of southeastern Manitoba, where school data and land alienation data are both plotted, also shows that the frontier was not always well defined. In this case the pro-

gression of settlement was to the east, which was atypical of European settlement on the Canadian prairies. Here the effect of land quality on settlement is quite evident. Poorly drained areas were avoided and skipped over. In-filling occurred only when better lands were taken.

On a provincial scale a comparison of maps with data plotted on a year-by-year basis indicates the rate of settlement and depicts the rapidity of change. Perhaps more

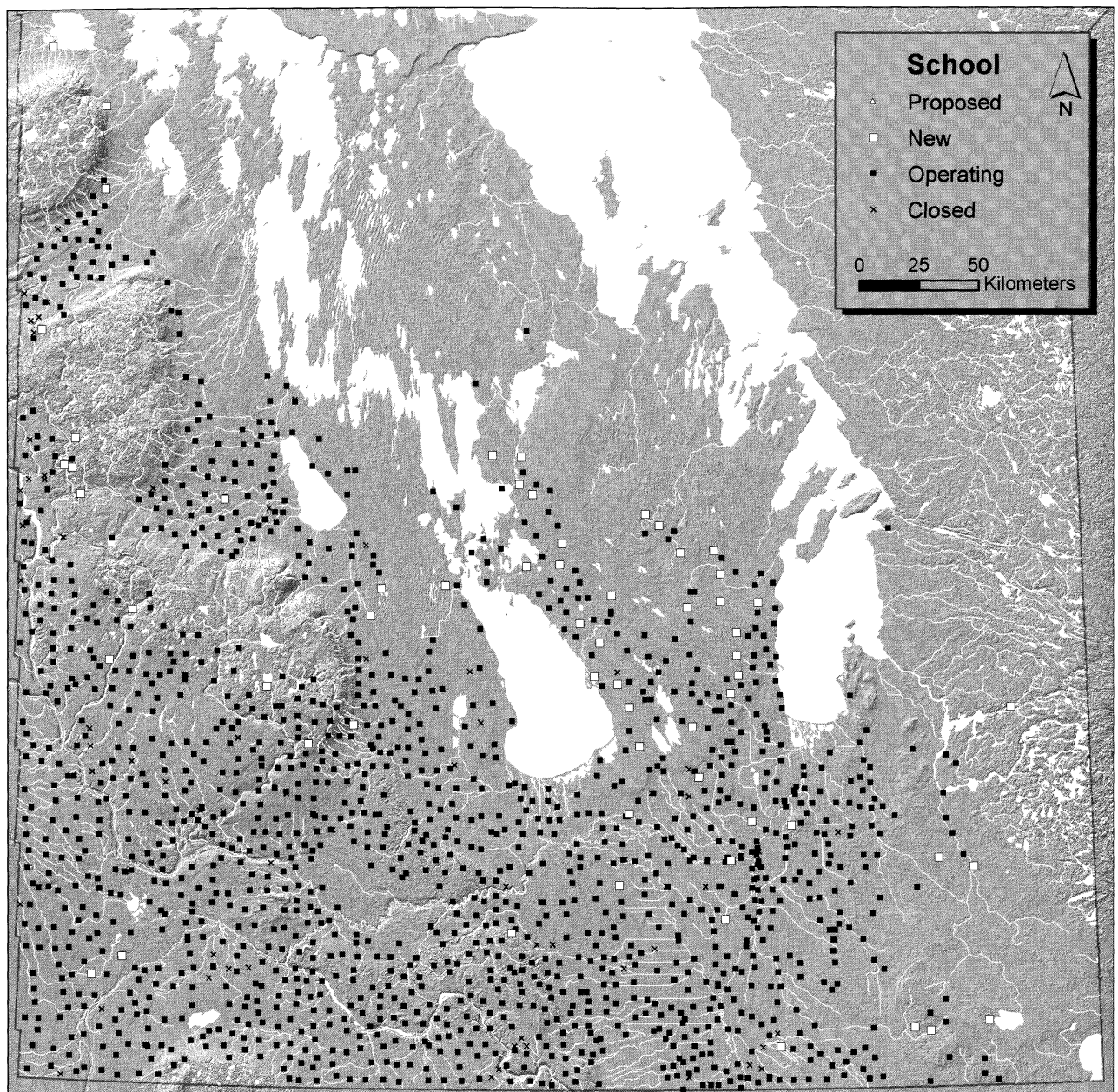


Figure 10. Schools in southern Manitoba in 1913. Sources of data: PAM, School Formation files, and Perfect (1978).

significantly, areas of apparent settlement retreat were easily identified by the appearance of abandoned schools (Fig. 11). Isolated cases of school closure at a time when schools in the same region were still being established may simply indicate the movement of one or two families out from a school's catchment area, but in cases where school abandonment was geographically clustered, the implication is that the district was experiencing significant depopulation and that the frontier of settlement was in retreat.

CONCLUSION

Mapping the frontier of settlement presents a number of theoretical and logistical challenges. Using school formation as an indicator of the imminent passage of the frontier of settlement enables a more accurate depiction of the settlement frontier at any given time than do other more conventional indicators. At best, census data can only be plotted at five-year intervals. Even then it is only

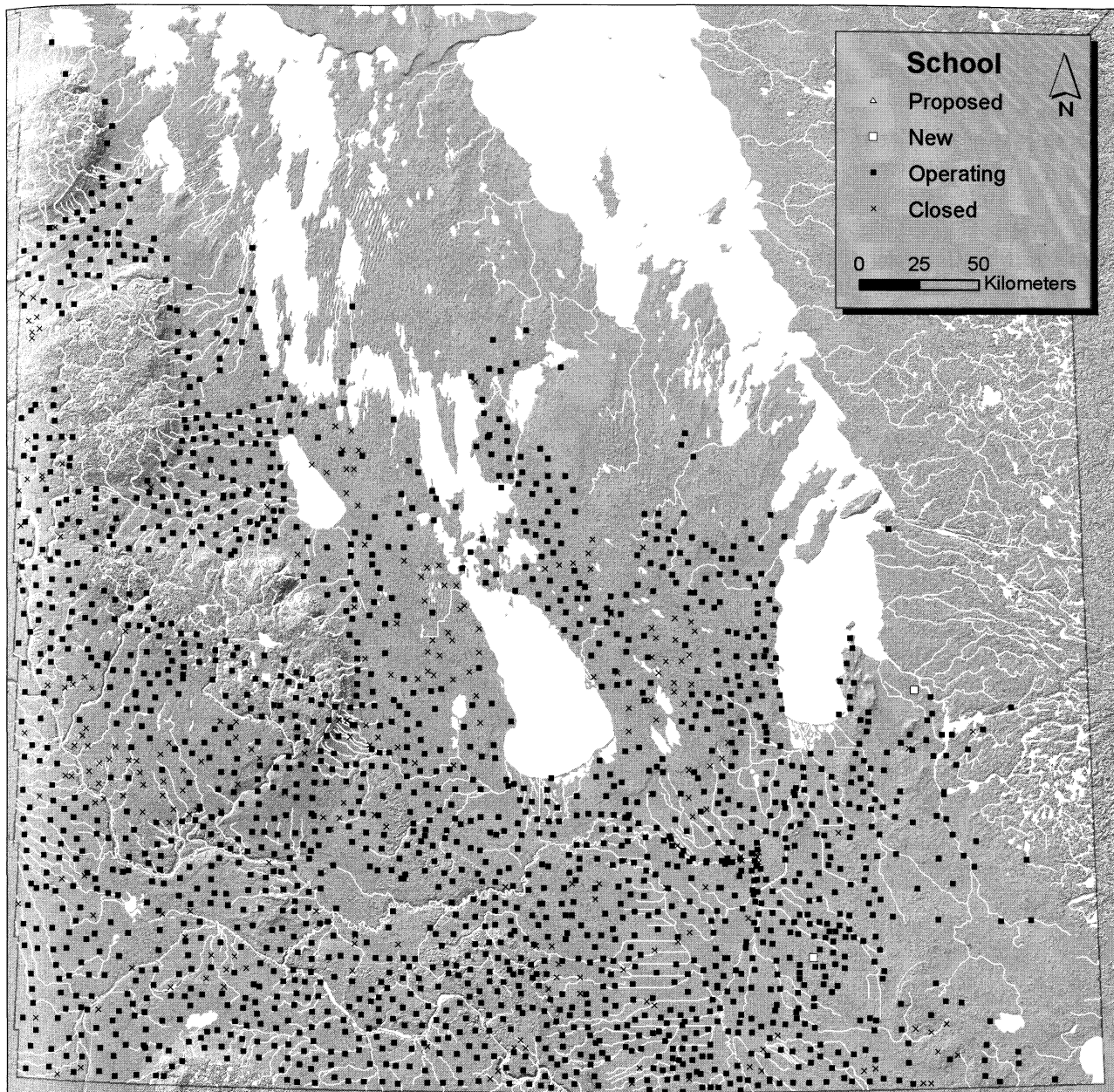


Figure 11. Schools in southern Manitoba in 1938. Sources of data: PAM, School Formation files, and Perfect (1978).

aggregate data, which means that the highest resolution possible is the township, an area of 36 square miles. Until consolidation began to take place in the late 1950s, school districts were always smaller than townships and thus provide a higher resolution for mapping purposes. Here we also argue that land alienation is not always an accurate measure of the actual settlement of the land. The pattern of landownership may or may not indicate the actual pattern of land occupation. Schools alone reflect the

actual presence of families settled on the land regardless of the legal status of landownership.

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